IN THE CLAIMS:

The status and content of each claim follows.

1. (currently amended) A semiconductor device, comprising:

a drain electrode;

a source electrode;

a channel contacting the drain electrode and the source electrode, wherein the channel includes one or more compounds of the formula $A_xB_xO_x$, wherein each of the one or more compounds consists of three elements with [[of]] the formula $A_xB_xO_x$, wherein the one or more compounds includes one or more of gallium-germanium oxide, gallium-tin oxide, gallium-lead oxide, indium-germanium oxide, indium-lead oxide, each O is atomic oxygen, where each x is a non-zero number, but the value of "x" for each constituent element may be different, wherein the channel includes one of an amorphous form and a mixed-phase crystalline form; and

a gate dielectric positioned between a gate electrode and the channel.

2. (Previously Presented) The semiconductor device of claim 1, wherein the one or more compounds of the formula $A_xB_xO_x$ includes an atomic composition of metal (A)-to-metal (B) ratio of A:B, wherein proportions of A, and B, based on stoichiometric x values associated with A, and B, are each in a range of about 0.05 to about 0.95.

3-5. (Cancelled)

6. (previously presented)A semiconductor device, comprising:

a drain electrode;

a source electrode;

a channel contacting the drain electrode and the source electrode, wherein the channel includes one or more compounds of the formula $A_xB_xO_x$, wherein the one or more compounds of the formula $A_xB_xO_x$ includes one or more of gallium-germanium oxide, gallium-tin oxide, gallium-lead oxide, indium-germanium oxide, indium-lead oxide, each O is atomic oxygen, where each x is a non-zero number, but the value of "x" for each constituent element may be different, wherein the channel includes one of an amorphous form and a mixed-phase crystalline form; and

a gate dielectric positioned between a gate electrode and the channel;

wherein the one or more compounds of the formula $A_xB_xO_x$ includes C_x, to form a compound of the formula $A_xB_xC_xO_x$, wherein each C is selected from the group of Ga, In, Ge, Sn, Pb, each O is atomic oxygen, each x is independently a non-zero number, and wherein each of A, B, and C are different.

7. (Previously Presented) The semiconductor device of claim 6, wherein the one or more compounds of the formula $A_xB_xC_xO_x$ includes an atomic composition of metal (A)-to-metal (B)-to-metal (C) ratio of A:B:C, wherein proportions of A, B, and C, based on stoichiometric x values associated with A, B, and C, are each in a range of about 0.025 to about 0.95.

8. (Previously Presented) The semiconductor device of claim 6, wherein the one or more compounds of the formula $A_xB_xC_xO_x$ includes one or more of gallium-germanium-tin oxide, gallium-tin-lead oxide, gallium-germanium-lead oxide, gallium-indium-germanium oxide,

gallium-indium-tin oxide, gallium-indium-lead oxide, indium-germanium-tin oxide, indium-tin-lead oxide, indium-germanium-lead oxide.

9. (Previously Presented) The semiconductor device of claim 8, wherein the one or more compounds of the formula $A_xB_xC_xO_x$ includes an atomic composition of metal (A)-to-metal (B)-to-metal (C) ratio A:B:C, wherein proportions of A, B, and C, based on stoichiometric x values associated with A, B, and C, are each in a range of about 0.025 to about 0.95.

10. (Previously Presented) The semiconductor device of claim 6, wherein the one or more compounds of formula $A_xB_xC_xO_x$, includes D_x, to form a compound of the formula $A_xB_xC_xD_xO_x$, wherein each D is selected from the group of Ga, In, Ge, Sn, Pb, each O is atomic oxygen, each x is independently a non-zero number, and wherein each of A, B, C, and D are different.

11. (Previously Presented) The semiconductor device of claim 10, wherein the one or more compounds of the formula $A_xB_xC_xD_xO_x$ includes an atomic composition of metal (A)-to-metal (B)-to-metal (C)-to-metal (D) ratio of A:B:C:D, wherein proportions of A, B, C, and D, based on stoichiometric x values associated with A, B, C, and D, are each in a range of about 0.017 to about 0.95.

12. (Currently Amended) The semiconductor device of claim [[1]] 10, wherein the one or more compounds of the formula $A_xB_xC_xD_xO_x$ includes one or more of gallium-germanium-tin-lead oxide, gallium-indium-germanium-tin oxide, gallium-indium-germanium-lead oxide, gallium-indium-tin-lead oxide, indium-germanium-tin-lead oxide.

13. (Previously Presented) The semiconductor device of claim 12, wherein the one or more compounds of the formula $A_xB_xC_xD_xO_x$ includes an atomic composition of metal (A)-to-metal (B)-to-metal (C)-to-metal (D) ratio A:B:C:D, wherein proportions of A, B, C, and D, based on stoichiometric x values associated with A, B, C, and D, are each in a range of about 0.017 to about 0.95.

14. (Previously Presented) The semiconductor device of claim 10, wherein the one or more compounds of formula $A_xB_xC_xD_xO_x$ includes E_x, to form a compound of the formula $A_xB_xC_xD_xE_xO_x$, wherein each E is selected from the group of Ga, In, Ge, Sn, Pb, each O is atomic oxygen, each x is independently a non-zero number, and wherein each of A, B, C, D, and E are different.

15. (Previously Presented) The semiconductor device of claim 14, wherein the one or more compounds of the formula $A_xB_xC_xD_xE_xO_x$ includes an atomic composition of metal (A)-to-metal (B)-to-metal (C)-to-metal (D) ratio of A:B:C:D:E, wherein proportions of A, B, C, D, and E, based on stoichiometric x values associated with A, B, C, D and E, are each in a range of about 0.013 to about 0.95.

16. (Currently Amended) The semiconductor device of claim [[1]] 14, wherein the one or more compounds of the formula $A_xB_xC_xD_xE_xO_x$ includes one or more of gallium-indium-germanium-tin-lead oxide.

17. (Previously Presented) The semiconductor device of claim 16, wherein the gallium-indium-germanium-tin-lead oxide includes an atomic composition of metal (A)-to-metal (B)-

to-metal (C)-to-metal (D)-to-metal (E) ratio A:B:C:D:E, wherein proportions of A, B, C, D, and E, based on stoichiometric x values associated with A, B, C, D and E, are each in a range of about 0.013 to about 0.95.

18. (Currently Amended) A semiconductor device, comprising:

a drain electrode;

a source electrode;

means for controlling current flow electrically coupled to the drain electrode and the source electrode, wherein the means for controlling current flow includes one or more ~~compounds of the formula $A_xB_xO_x$, wherein the one or more compounds of the formula $A_xB_xO_x$ includes one or more~~ of gallium-germanium oxide, gallium-tin oxide, gallium-lead oxide, indium-germanium oxide, indium-lead oxide, ~~where each x is a non-zero number, but the value of "x" for each constituent element may be different,~~ wherein the channel includes one of an amorphous form and a mixed-phase crystalline form; and

a gate electrode separated from a channel by a gate dielectric.

19. (Cancelled)

20. (Original) The semiconductor device of claim 18, wherein the source, drain, and gate electrodes include a substantially transparent material.

21-36. (Cancelled)

37. (Currently Amended) A semiconductor device formed by the steps, comprising:

providing a drain electrode;

providing a source electrode;

providing a precursor composition including one or more precursor compounds that each consist of three elements ~~include A_x and one or more compounds that include B_x~~, wherein the one or more compounds are of the formula $A_xB_xO_x$ and include ~~includes~~ one or more of gallium-germanium oxide, gallium-tin oxide, gallium-lead oxide, indium-germanium oxide, indium-lead oxide, where each x is a non-zero number, but the value of "x" for each constituent element may be different, wherein the channel includes one of an amorphous form and a mixed-phase crystalline form;

depositing a channel including the precursor composition to form a multicomponent oxide from the precursor composition to electrically couple the drain electrode and the source electrode;

providing a gate electrode; and

providing a gate dielectric positioned between the gate electrode and the channel.

38. (Previously Presented) A semiconductor device formed by the steps, comprising:

providing a drain electrode;

providing a source electrode;

providing a precursor composition including one or more precursor compounds that include A_x and one or more compounds that include B_x, wherein the one or more compounds of the formula $A_xB_xO_x$ includes one or more of gallium-germanium oxide, gallium-tin oxide, gallium-lead oxide, indium-germanium oxide, indium-lead oxide, where each x is a non-zero

number, but the value of "x" for each constituent element may be different, wherein the channel includes one of an amorphous form and a mixed-phase crystalline form;

depositing a channel including the precursor composition to form a multicomponent oxide from the precursor composition to electrically couple the drain electrode and the source electrode;

providing a gate electrode; and

providing a gate dielectric positioned between the gate electrode and the channel;

wherein the one or more precursor compounds includes one or more precursor compounds that include $C_{x,}$ wherein each C is selected from the group of Ga, In, Ge, Sn, Pb, each x is independently a non-zero number, and wherein each of A, B, and C are different.

39. (Previously Presented) The semiconductor device of claim 38, wherein the one or more precursor compounds includes one or more precursor compounds that include $D_{x,}$ wherein each D is selected from the group of Ga, In, Ge, Sn, Pb, each x is independently a non-zero number, and wherein each of A, B, C, and D are different.

40. (Previously Presented) The semiconductor device of claim 39, wherein the one or more precursor compounds includes one or more precursor compounds that include E_x, wherein each E is selected from the group of Ga, In, Ge, Sn, Pb, each x is independently a non-zero number, and wherein each of A, B, C, D, and E are different.

41. (Original) The semiconductor device of claim 40, wherein depositing the channel includes vaporizing the precursor composition to form a vaporized precursor composition, and depositing the vaporized precursor composition using a physical vapor deposition

technique including one or more of dc reactive sputtering, rf sputtering, magnetron sputtering, ion beam sputtering.

42. (Original) The semiconductor device of claim 37, wherein providing the source, the drain, and the gate electrodes includes providing a substantially transparent form of the source, the drain, and the gate electrodes.

43. (Original) The semiconductor device of claim 37, wherein providing the precursor composition includes providing a liquid form of the precursor composition.

44. (Original) The semiconductor device of claim 43, wherein depositing the channel includes an ink-jet deposition technique when the precursor composition includes the liquid form.

45-47. (Cancelled)

48. (Currently Amended) A display device, comprising:

a plurality of pixel devices configured to operate collectively to display images, where each of the pixel devices includes a semiconductor device configured to control light emitted by the pixel device, the semiconductor device including:

a drain electrode;

a source electrode;

a channel contacting the drain electrode and the source electrode, wherein the channel includes one or more compounds each consisting of three elements of the

formula $A_xB_xO_x$, wherein the one or more compounds of the formula $A_xB_xO_x$ includes one or more of gallium-germanium oxide, gallium-tin oxide, gallium-lead oxide, indium-germanium oxide, indium-lead oxide, each O is atomic oxygen, where each x is a non-zero number, but the value of "x" for each constituent element may be different, wherein the channel includes one of an amorphous form and a mixed-phase crystalline form;

a gate electrode; and

a gate dielectric positioned between the gate electrode and the channel and configured to permit application of an electric field to the channel.

49. (Original) The display of claim 48, wherein the source, the drain, and the gate electrodes include a substantially transparent material.

50. (Previously Presented) The display of claim 48, wherein the one or more compounds of the formula $A_xB_xO_x$ includes an atomic composition of metal (A)-to-metal (B) of ratio A:B, wherein proportions of A, and B, based on stoichiometric x values associated with A, and B, are each in a range of about 0.05 to about 0.95.

51. (Previously Presented) A display device, comprising:

a plurality of pixel devices configured to operate collectively to display images, where each of the pixel devices includes a semiconductor device configured to control light emitted by the pixel device, the semiconductor device including:

a drain electrode;

a source electrode;

a channel contacting the drain electrode and the source electrode, wherein the channel includes one or more compounds of the formula $A_xB_xO_x$, wherein the one or more compounds of the formula $A_xB_xO_x$ includes one or more of gallium-germanium oxide, gallium-tin oxide, gallium-lead oxide, indium-germanium oxide, indium-lead oxide, each O is atomic oxygen, where each x is a non-zero number, but the value of "x" for each constituent element may be different, wherein the channel includes one of an amorphous form and a mixed-phase crystalline form;

a gate electrode; and

a gate dielectric positioned between the gate electrode and the channel and configured to permit application of an electric field to the channel;

wherein the one or more compounds of the formula $A_xB_xO_x$ includes C_x, to form a compound of the formula $A_xB_xC_xO_x$, wherein each C is selected from the group of Ga, In, Ge, Sn, Pb, each O is atomic oxygen, each x is independently a non-zero number, and wherein each of A, B, and C are different.

52. (Previously Presented) The display of claim 51, wherein the one or more compounds of the formula $A_xB_xC_xO_x$ includes an atomic composition of metal (A)-to-metal (B)-to-metal (C) ratio A:B:C, wherein proportions of A, B, and C, based on stoichiometric x values associated with A, B, and C, are each in a range of about 0.025 to about 0.95.

53. (Previously Presented) The display of claim 51, wherein the one or more compounds of formula $A_xB_xC_xO_x$, includes D_x, to form a compound of the formula $A_xB_xC_xD_xO_x$, wherein each D is selected from the group of Ga, In, Ge, Sn, Pb, each O is atomic oxygen, each x is independently a non-zero number, and wherein each of A, B, C, and D are different.

54. (Previously Presented) The display of claim 53, wherein the one or more compounds of the formula $A_xB_xC_xD_xO_x$ includes an atomic composition of metal (A)-to-metal (B)-to-metal (C)-to-metal (D) ratio A:B:C:D, wherein proportions of A, B, C, and D, based on stoichiometric x values associated with A, B, C, and D, are each in a range of about 0.017 to about 0.95.

55. (Previously Presented) The display of claim 53, wherein the one or more compounds of formula $A_xB_xC_xD_xO_x$ includes E_x, to form a compound of the formula $A_xB_xC_xD_xE_xO_x$, wherein each E is selected from the group of Ga, In, Ge, Sn, Pb, each O is atomic oxygen, each x is independently a non-zero number, and wherein each of A, B, C, D, and E are different.

56. (Previously Presented) The display of claim 55, wherein the one or more compounds of the formula $A_xB_xC_xD_xE_xO_x$ includes an atomic composition of metal (A)-to-metal (B)-to-metal (C)-to-metal (D)to-metal (E) ratio A:B:C:D:E, wherein proportions of A, B, C, D, and E, based on stoichiometric x values associated with A, B, C, D, and E, are each in a range of about 0.013 to about 0.95.

57. (Cancelled)